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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,994	02/19/2004	Mark Trabbold	D0932-00426	5329

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EXAMINER

DAVIS, JENNA L

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,994

Applicant(s)

TRABBOLD ET AL.

Examiner

Jenna Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 12-16, 18-20 and 22-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-16, 18-20 and 22-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/12/06, and 2/19/2004.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 14, 2006, has been entered.

Response to Amendment

The amendment filed August 14, 2006, has been entered. Claims 1-8, 12-16, 18-20, and 22-31 are pending. Further the amendment to the specification has been entered.

Terminal Disclaimer

The terminal disclaimers filed on August 14, 2006, disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of applications 10/806544, 10/823065, and 10/782275 have been reviewed and are accepted. The terminal disclaimers have been recorded.

Claim Objections

Claims 5-8 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 5-8 fail to further limit claims 3 from which they depend as claim 3 recites “virgin textile glass fibers” while claims 5-8 are drawn to “textile glass fibers” per se. This broadens rather than limits claim 3.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-8, 22 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As set forth above claims 5-8 recite “said textile glass fibers” while claim 3 from which they depend are drawn to “virgin textile glass fibers.” Thus it is not clear what the scope and content of the claimed invention is.

Claim 22 recites “said inorganic fibers forming the facing layer” however claim 1, from which the claim depends indicates that the facing layer may be formed from “inorganic, natural, or synthetic fibers.” It is not clear what the scope and content of claim 22 is. Must the facing layer as defined in claim 22 be inorganic fibers or can the fibers also be natural or synthetic. Clarification is required.

In claim 23 the term “said non-woven scrim” lacks antecedent in claims 1 and 22 from which it depends.

Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 12-14, 16, 18-20, 22, 23, and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kajander (US 2003/0008586) in view of Tutin (US 2004/0038017) and the admitted prior art as set forth in paragraph [0004] of the present specification.

Kajander et al. teach a nonwoven mat laminate of one or more layers, comprising an essentially formaldehyde free binder, which consists of fibers, bonded together with said binder (pg.1 col.2 paragraph 0008). Although Kajander et al. teach that the binder is aqueous, it is heated so that the water is removed (pg.2 col.1 paragraph 0014). Thus, the resulting product is a non-liquid binder. The laminate consists of a nonwoven web comprising said fibers (pg.2 col.1 paragraph 0014) of rayon, polyester, or polyethylene (pg.2 col.2 paragraph 0020). The fibers consist of glass as well as other fibers such as cellulosic fibers and wood fibers (pg.2 col.2 paragraph 0020). The diameters of said glass fibers are in the range of about 6 to 23 microns and have an average fiber length of about 0.25 to 1.25 inches (pg.2 col.2 paragraphs 0018 and 0019, respectively). The binder also comprises bi-component polymeric fibers, which consist of a polyester core covered with a sheath of polyethylene (pg.1 col.2 paragraph 0010), which is inherently a thermoplastic material. Further, the sheath material inherently has a lower melting point temperature than that of the core material. On page 3 col. 2 paragraph 0030, Kajander et al. disclose that said mat has a density of 45 pounds per cubic foot, implying a uniform density throughout the laminate and having a weight of 1.7 pounds/100 square feet, or 83 gm/square meters. Kajander et al. teach that the weight percent of the formaldehyde-free binder of the total

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mat is from about 0.5 to 4 weight percent (par.0018), but fail to teach the percent to be in the range of 10 to 30%. Kajander et al. also fail to teach the density or thickness of the insulation.

Tutin et al. is drawn to formaldehyde-free insulation binders containing glass fibers. Tutin et al. teach that the binder component can be present in an amount of 5-20 weight percent and that the amount of binder for most thermal insulation products will be the amount necessary to lock each fiber into the mass by bonding the fibers where they cross or overlap and it is desired to have binder compositions with good flow characteristics so that the binder solution can be applied to the fiber at a low volume. (paragraph 0045). Tutin et al. teach that such insulation can have a density of 1-40 pounds per cubic foot. (paragraph 0060).

In paragraph [0004] of the present specification applicant admits that conventional duct lining materials have a thickness of about 0.5 to 2 inches.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the insulation of Kajander et al. so that it comprised the binder weight percent of Tutin et al. and in the admittedly well-known thickness for such materials motivated to attain the desired amount of insulation. Further, it would have been obvious to one having ordinary skill at the time the invention was made to use density taught by Tutin et al. in the invention of Kajander et al. motivated to attain a suitable insulation product.

Claims 15, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kajander et al. in view of Jaffee (US 2004/0266304).

The features of Kajander et al. have been set forth above. Kajander et al. teach a formaldehyde-free nonwoven fibrous mat but fail to disclose bi-component fibers comprising a

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core of mineral fibers, an anti-microbial agent as well as a water resistant additive of epoxy foam, acrylic or asphalt.

Jaffee is drawn to non-woven glass fiber mat laminates. Jaffee teaches non-woven mat comprising a binder of glass or mineral fibers (pg.4 col. 1 paragraph 0032), bound together with a water resistant binder of acrylic (pg.4 col.1 paragraph 0033), as well as materials such as biocide, which resist fungal growth (pg.4 col.2 paragraph 0037). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include mineral fibers in the binder taught by Kajander et al. The motivation would have been to provide strength and insulation to the core (pg.1 col.1 paragraph 0006). Further, it would have been obvious to one having ordinary skill in the art to use acrylic as the water repelling materials taught by Kajander et al. The motivation would have been to provide further insulation as well as excellent water repellency (pg.4 col.1 paragraph 0034).

Response to Arguments

Applicant's arguments filed August 14, 2006, have been fully considered but they are not persuasive for the reasons set forth.

Applicant argues that Jaffee does not disclose the use of a binder of glass or mineral fibers. This argument is not persuasive because Jaffee teaches on page 4 paragraphs 0032-0033 that the binder fibers can be glass or mineral fibers.

Applicant further argues that there is no motivation to combine Tutin et al. with Kajander since Kajander teach that the binder content is less than 3 weight percent. This argument is not persuasive since Kajander et al. disclose the range to be from 0.5 to 5 weight percent of the binder compared to the total material, see paragraph 0009, and Tutin et al. teach that the binder

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component can be present in an amount of 5-20 weight percent the amount of binder for most thermal insulation products. Thus, it will be the amount necessary to lock each fiber into the mass by bonding the fibers where they cross or overlap and it is desired to have binder compositions with good flow characteristics so that the binder solution can be applied to the fiber at a low volume. (paragraph 0045). Also, Kajander teaches on paragraph 0011 that using less binder results in weaker mats which have better ability to bond to wood or wood composites and are less rigid. Therefore, Kajander teaches that the amount of binder is a result effective variable. Tutin teaches that higher amounts of formaldehyde for binders can be used to bond nonwoven mats. Therefore, the person of ordinary skill in the art would have been motivated to select the amount of resin through the process of routine experimentation in view of the teachings of Kajander and Tutin which produced a nonwoven having the desired strength and/or rigidity.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna Davis whose telephone number is 571-272-3357. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jenna Davis
Primary Examiner
Art Unit 1771

jld